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ACE Assessments in Career Education

Guide for Teachers

Computer Science and Information Systems

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2002

Introduction

About This Guide

The *Assessments in Career Education* (ACE) *Guide for Teachers* has been developed to provide essential information and preparation guidelines for teachers. The intent of the guide is to serve as an instructional aid in the classroom. The guide is divided into eleven sections:

Background — describes the purpose of the ACE program.

Key Dates for ACE 2001–2002 — describes the timeline for successfully participating in ACE.

Test Content and Standards — describes the content standards upon which the ACE examinations are based.

Test Structure — describes the general format of the test.

Test Preparation — includes strategies for preparing students for taking an ACE examination, including written-response questions.

Achievement Levels — describes the six different levels of achievement.

Sample Questions — includes sample multiple-choice questions and a sample written-response question.

General Scoring Criteria — shows the general criteria used to develop specific scoring guides for written-response questions.

Sample Student Work — includes examples of student work for the sample written-response question at different score points with commentary.

Recognition Program — provides suggestions for how to recognize students for outstanding achievement.

ACE Brochure — a reproducible master for teachers, students, parents, and the community that describes the ACE program.

Teachers are encouraged to reproduce portions or all of the guide for classroom use.

Student Eligibility

The ACE in Computer Science and Information Systems may be taken by a student only one time. For this reason, it is important for students to take the examination when they are fully prepared. Prior to taking the examination, students should complete the appropriate coursework that provides instruction in all of the standards covered by the examination. For example, students enrolled in a two-year computer science and information systems program should wait until the end of their second year to take the ACE in Computer Science and Information Systems.

Background

The ACE program, patterned after the well-established Golden State Examination program, is designed to recognize students who demonstrate outstanding achievement on rigorous examinations in selected career-technical areas. All examinations are based on California career education standards. The standards for Computer Science and Information Systems are included in this guide on pages 3–6.

Participation in the ACE program is voluntary: it is offered at no cost to public school students, schools, or districts. It provides an invaluable opportunity for students to demonstrate both career-technical and academic skills on a statewide examination. Outstanding achievement on the ACE examination benefits students in at least three ways:

- Students receive three types of formal recognition from the State of California for their achievement in a career-technical area.
  - state award of ACE Academic Excellence
  - honor roll banner for display at school
  - letter to state legislators announcing individual student success
- Students are better prepared for successful transition to work or higher education in their career field.
- Students establish a record of accomplishment that is valued by potential employers and post-secondary schools through the following:
  - official notation on school transcript
  - ACE insignia on high school diploma for recipients of honors and high honors recognition

The first ACE examinations were given in 1997. In 2002, the following five content areas are covered:

- Agricultural Core
- Computer Science and Information Systems
- Food Service and Hospitality
- Health Care, Level I
- Technology Core

Teacher experts, industry representatives, college and university professors, and other related specialists develop questions for the ACE examinations. Test items are reviewed and field-tested to ensure that the test content reflects the industry-accepted model curriculum standards for each career area. The test questions also undergo thorough content, community, and technical reviews to ensure that the examinations provide reliable, valid, and fair results.

Key Dates for ACE 2001–2002

By reading this guide, you have already begun the first step toward your students' successful participation in the ACE program. Because ACE is a voluntary assessment, teachers must actively express an interest in participation. By using the following timeline, you can facilitate your district and/or ROCP office in ordering, delivering, and returning examinations.

	What happens	What to do
October–December 2001	ACE Guides for Teachers go online at www.cde.ca.gov/statetests/ace. Results are sent to districts.	Find out who your ACE coordinator is at the district level. Promote ACE locally to students, parents, and community. Excite students about the opportunity. Honor students from the previous year who received outstanding achievement. Display Honor Recognition banner. Distribute results to ACE students. Send announcements to local newspaper.
January 2002	ACE registration materials sent to Districts and/or ROCP Coordinators.	Follow up with your site/district administrator if you do not receive registration materials.
March	ACE registration materials are due from your district and/or ROCP to the California Department of Education's testing contractor. Your information tells us how many tests to print and send to you.	Make sure registration materials have been returned.
April	ACE examinations are sent to your district and/or ROCP office for distribution to school sites.	Follow up with your site/district administrator if tests are not received by the end of April.
May	ACE examinations are given during the month of May and must be returned to your site administrator and district/ROCP office by June 5.	Follow up with your site administrator to confirm test materials have been returned.
June–July	ACE examinations are scored by teams of experts. You might be interested in joining the team.	This is a paid opportunity for you to see how students responded to the questions, get to know other teachers in your content area from around the state, and participate in an invaluable professional development opportunity. Call Sacramento County Office of Education at (916) 228-2662 for more information.
October–November	Results from previous spring administration of the ACE examinations are sent to schools through districts and/or ROCP offices.	Check with your district and/or ROCP periodically for arrival of the results and the related recognition materials.

For test security, examinations are sent to an assessment/program coordinator at the district and/or ROCP office. This person often coordinates many other examinations as well. Find out early in the school year who this person is for your district and/or ROCP. Work with your site administrator to develop a communication system about ACE so that information and materials are efficiently received by career-technical teachers and returned to your district and/or ROCP office.

Beyond key dates and communications support system for successful test administration, you will want to prepare your students to be successful on the ACE examination. The rest of this guide is devoted to assisting you in that effort.

Test Content and Standards

The content standards covered by the ACE 2002 in Computer Science and Information Systems are provided below.

Test Content

The ACE in Computer Science and Information Systems is based upon the knowledge and skills defined in the *Challenge Standards for Student Success: Career Preparation—Business Education.* These standards, as shown below, share a substantial amount of content with their predecessor, the *Business Education Career Path and Model Curriculum Standards.*

Standards

Technology and the growing complexity of businesses have expanded the need for employees who can analyze, design and manage information. Skills in evaluating data, working with people, and communicating are companion components for careers in information systems. Employment opportunities for technically and professionally trained individuals is outstanding in this emerging career path. After mastering basic technology skills, students can select one of many specializations in the field of techno logy.

4.1 Computer Science and Information Technology (Cluster): Students will understand computer science and information technology concepts necessary to function in a rapidly changing technological, global society. They will demonstrate competency by performing multiple tasks required to develop and use appropriate resources to access, modify, and provide information effectively.

- 4.1.1 *Business and Technology Ethics*—define, explain, and demonstrate proper business and technology ethics, including management of intellectual property
- 4.1.2 *Computer and Communications Systems*–use operating systems, hardware and peripherals, integrating communication tools and appropriate resources, to share information
- 4.1.3 *Computer Applications*—identify, select, and use a variety of business and industry standard applications software; discuss current and emerging standards technology and trends
- 4.1.4 *Knowledge Management and Business Processes*—use technology and electronic media to identify, analyze, design, and create processes to manage workflow, communicate a collective understanding, and provide feedback for operational management
- 4.1.5 *Program Design and Development*—identify programming models and data elements including the development of user-friendly systems
- 4.1.6 *Project Management*—prioritize activities and manage the details including project scope, timelines, and budgets for the life cycle of the system in a team environment
- 4.1.7 *Security*—illustrate and implement basic security plans and procedures for information systems
- 4.1.8 *Systems Analysis and Design*—analyze current manual and electronic systems and develop efficient and effective solutions
- 4.1.9 *Technical Resources*—locate, organize and engage appropriate resources necessary to implement and support systems and/or solve problems

4.2 **Administrative Support (Specialization):** Students will understand support services necessary for the operation of a business organization in a global society. They will demonstrate competency by utilizing multiple skills and performing tasks in support of the business organization's goals.

4.2.1 *Business Environment*—design and organize an ergonomic business environment that maximizes productivity while considering human needs

4.2.2 *Business Management*—describe and demonstrate the coordination of business operations performed by administrative personnel

4.2.3 *Computer Applications*—select and use appropriate hardware/software to design and produce professional documents and presentations

4.2.4 *Productivity*—describe methods to maximize use of available personnel, equipment and resources in a variety of organizational situations

4.2.5 *Records Management*—classify, store, retrieve, and purge paper, film and electronic records

4.2.6 *Safety and Security*–apply positive safety attitudes and work habits important in the workplace

4.2.7 *Supervision*—describe supervisory skills needed in a business and illustrate the use of these skills to communicate, manage, delegate, organize, plan and make decisions

4.2.8 *Time Management*—demonstrate effective time management skills

4.3 **Computer Science (Specialization):** Students will understand systems and programming concepts related to the development of computer operations. They will demonstrate competency by applying these concepts to the development of computer systems and programs.

4.3.1 *Algorithms*—design solutions that are correct, reliable, and efficient; compare and contrast various sorting and searching methods

4.3.2 *Architecture Methods*—explain digital logic, machine-level representation of data, memory-system organization, and architectural use of assembly- level programming

4.3.3 *Artificial Intelligence and Robotics*—discuss uses and effects of artificial intelligence and robotics

4.3.4 *Complex Programs*—develop complex programs that are large in scope and require analysis regarding implementation issues

4.3.5 *Data Structures*—develop programs utilizing abstract data types and object-oriented programming

4.3.6 *Database*—design programs that access and modify databases, using various file access methods

4.3.7 *Human-Computer Interfaces*—communicate, orally and in writing, information that enables users to operate computer systems effectively

4.3.8 *Networking and Communications*—install programs that utilize various network and communication protocols

4.3.9 *Operating Systems*—utilize operating systems and associated utilities for file management, backup and recovery, and execution of programs; compare simple and multi- user operating systems

4.3.10 *Program Design*—using problem-solving methods, define and analyze programs; design structured, maintainable programs to meet specifications; and, with a well-defined user interface, code, execute, test, and debug programs to produce accurate and reliable results

4.3.11 *Program Modification*—describe the ways in which specification changes and technological advances require the modification of programs

4.3.12 *Programming Languages*—compare several programming languages; create structured programs in at least two languages, utilizing control structures, procedures, functions, parameters, local variables, error recovery, and recursion

4.3.13 *Programming Style*—develop structured, documented, maintainable programs that create self-explanatory output

4.3.14 *Simple Programs*—implement algorithmic solutions and codes to well-defined problems

4.3.15 *Social Issues*—discuss the issues of access, privacy, and ethics and their impact on society

4.3.16 *Systems Analysis*—analyze computer systems, access and design available solutions, and develop appropriate systems

4.4 **Management of Information Systems (Specialization):** Students will understand how to analyze the need for, plan, manage, and support the use of business systems to accomplish mission-critical functions. They will demonstrate competency by successfully deploying a management system that improves the productivity of an organization.

4.4.1 *Change Management*—analyze the potential impact of a system on the people in the organization through the systems life cycle and develop appropriate plans addressing impact on resources

4.4.2 *Deployment Planning*—identify steps for systems implementation and resources needed including technical support and ongoing active learning and training programs

4.4.3 *Needs Analysis*—describe a business problem, examine functional requirements, and prepare a cost-benefit analysis

4.4.4 *Resource Management*—explain how to qualify, recruit and manage both internal and external resources needed when developing, deploying, and supporting systems in an organization

4.4.5 *Risk Analysis*—identify and analyze organizational, technical, and financial risks associated with the implementation and use of a system

4.4.6 *Systems Management*—develop system life-cycle models and plans for the ongoing upgrade, support, and training of users

4.4.7 *Systems Security*—develop a plan and implement policies and procedures to ensure the security and integrity of management systems

4.4.8 *Systems Selection*—investigate, evaluate, select, and use major types of systems applications and vendors including retail, manufacturing, and service management

4.4.9 *Training*—design information and instruction for users to ensure efficient, productive systems operation

4.5 **Telecommunications (Specialization):** Students will understand the telecommunications concepts, systems, and business models necessary to install, create, and manage diverse types of communication technologies and networking systems. They will demonstrate competency by performing tasks related to the creation, installation, management, and security of a chosen networking system.

4.5.1 *Business Decisions*—analyze the factors affecting the selection of appropriate communications services; for example, cost, ease of use, and timelines

4.5.2 *Business Models*—examine various types of telecommunications models including products and services provided, identification of market spaces, resources needed to create, deliver, and support products and revenue models essential for company growth

4.5.3 *Customer Support*—create a plan that includes customer policies and procedures including incident management and escalation; select help desk tools and resources such as incident tracking, knowledge database, and staffing

4.5.4 *Emerging Technology and Trends*—discuss emerging products, services, and business models in relation to the creation, setup, and management of networking and telecommunication products and services

4.5.5 *Media Types*—identify, evaluate, create, and process voice and data transmissions

4.5.6 *Network and Systems Administration*—analyze, manage, and maintain various types of electronic networks

4.5.7 *Networking and Communication Applications*—describe and illustrate appropriate use of communication services, products, and applications

4.5.8 *Networking and Communications Infrastructure*—evaluate, select, and configure compatible systems across various platforms and media types

4.5.9 *Resource Management*—discuss the effective management of human, financial, and telecommunications resources from the standpoint of both a user and a provider

4.5.10 *Security Monitoring and Investigation*–classify appropriate monitoring devices and procedures for quick identification, and prevention of security violations; describe investigative procedures to follow

4.5.11 *Security Program*—develop policies and procedures including user agreements, incident reporting, and recovery for company employees; design orientation and training programs to educate technicians and end-users

4.5.12 *Security Risk Assessment*—identify potential risks and entrance points including intentional, non- intentional, internal and external risks, and select appropriate hardware and software including firewalls, monitoring, and antivirus protection

4.5.13 *Standards and Protocol*—analyze implications of protocols and international standards and discuss their impact on data transmission

4.5.14 *Topology*—diagram physical and logical layouts of telecommunications systems

4.5.15 *Training*—provide information and instruction to users that will enable them to operate telecommunications systems

4.5.16 *Troubleshooting*—identify problems, develop appropriate methods and tools for resolving problems, and implement solutions

Resource Documents

Copies of the *Challenge Standards for Student Success: Career Preparation—Business Education*, which include the Computer Science and Information Systems content area, are available at http://www.cde.ca.gov/challenge/BusEd.pdf. Copies of the *Business Education Career Path and Model Curriculum Standards* are available from the CDE Press, Sales Office, California Department of Education, P.O. Box 271, Sacramento, CA 95812-0271 or by fax at (916) 323-0823.

Test Structure

The ACE in Computer Science and Information Systems is administered in two 45-minute sessions. Each session consists of multiple-choice questions and a written-response question.

The purpose of the multiple-choice questions is to assess students' knowledge of computer science and information systems. The multiple-choice questions vary in complexity. Some require students to apply concepts to solve problems. This portion of the examination is machine scored. Sample questions are provided on page 11.

The written-response questions are designed to measure students' application of skills and knowledge. Students respond in writing to questions about career-related situations. The written-response questions are scored by computer science and information systems teachers and other professionals in the career area. Students are awarded a score point from one to four for each question, with four being the highest score. The sample multiple-choice and written-response questions, general scoring criteria, and sample student work and commentary are provided on pages 11-14.

Test Preparation

Students should have a firm foundation in the essential skills needed for success in the career area tested. Sound preparation for ACE is built on classroom assignments that allow students to use and test their skills and knowledge regularly.

Students preparing for the examinations need to be able to articulate the major concepts in the career area being assessed. They must be able to analyze information, apply knowledge, solve problems, and explain their solutions.

Preparing Students for Written-response Questions

Using the sample written-response question in this guide (page 11):

- discuss the wording of the sample written-response question. Help students to identify and understand the key requirements of the question (i.e, what is being asked?).
- review the general scoring criteria (page 12) with students. This will help students better understand what is expected of them.
- discuss the student work samples. Focus on the differences between the score points.

In addition:

- plan a variety of classroom activities that require students to interpret, think through, and answer written-response questions. For example:
  - define and explain terms that are common in written-response questions (e.g., "in detail," "fully," "list" vs. "describe" vs. "explain").
  - model processes for "thinking through" and outlining answers to written-response questions.
  - model processes for incorporating details into answers to written-response questions.
- provide students with many opportunities to practice writing (e.g., through homework assignments, in-class projects, and classroom assessments).
- involve students in developing written-response questions and scoring guides related to content covered in your curriculum.
- have students evaluate their own answers to written-response questions, as well as the answers of their peers, using a scoring guide. Encourage students to discuss strategies for improving their own and others' work.
- allow students to revise/improve their answers to written-response questions, based on your feedback and/or the feedback of their peers.

As an instructor:

- when you help prepare your students for the written portion of the ACE examination, you are also helping them to become better writers.
- keep in mind that you can help improve your students' writing as you engage them in writing about real-world activities.
- resources at your school that are available to help enhance your students' writing skills include:
  - the *English-Language Arts Content Standards for California Public Schools* adopted by the California State Board of Education (http://www.cde.ca.gov/board/standards.html), in particular, the sections entitled "Writing" and "Writing and Oral English Language Conventions."
  - any writing initiatives currently being implemented at your high school.
  - the language arts and English language learner instructors at your high school and/or in your career cluster.

Test-taking Strategies

Several test-taking strategies may be helpful to students during an ACE examination.

When answering multiple-choice questions, students should:

- read the directions carefully.
- generate their own idea of the most accurate answer to a question before selecting from the answers provided.
- pace themselves by considering the number of questions and the time allowed.

When answering written-response questions, students should:

- read and understand all parts of the question.
- underline the key requirements of the question.
- think quickly of the main ideas that will serve as a framework for their response.
- briefly outline the main ideas in a logical sequence before responding.
- respond to all parts of the question.
- provide accurate, clear, and detailed examples that demonstrate their knowledge of the career-area topic covered.
- check their work when finished to make sure they have responded to all required components of the question.

The following is an example of the general directions that precede a written response item on the ACE in Computer Science and Inforamtion Systems. You may want to use the same general directions when developing your classroom assessments.

Directions:

- Carefully read the question below. You will have 15 to 20 minutes to respond. Your written response should cover all parts of the question and should contain all examples requested.
- Plan your response before you begin writing, using the space at the bottom of this page.
- Allow time to review and proof read your work and to make any revisions or corrections. Your response will be evaluated on the completeness and correctness of your answer, your understanding of relevant concepts, and your skills in expressing yourself clearly.
- Write your response on pages ____ through ____ of your answer document. Writing that appears on this planning page or any other scratch/drawing paper will not be scored.

Achievement Levels

Scores from the multiple-choice and written-response portions of the examination are combined to produce the student's overall achievement level. There are six achievement levels. Students who achieve level six are awarded high honors; those who achieve level five are awarded honors; and those who achieve level four are awarded recognition. Students who achieve level three or below are acknowledged for their participation.

Level 6

The student has demonstrated excellent knowledge, understanding, and application of the content and concepts of computer science and information systems. The responses:

- show excellent knowledge and understanding of the concepts of computer science and information systems.*
- demonstrate superior interpretive, analytical, and problem-solving skills.
- present accurate information and ideas in a detailed, well-organized manner.

Level 5

The student has demonstrated strong knowledge, understanding, and application of the content and concepts of computer science and information systems. The responses:

- show substantial knowledge and understanding of the concepts of computer science and information systems.*
- demonstrate very good interpretive, analytical, and problem-solving skills.
- present information and ideas in an organized and accurate manner.

Level 4

The student has demonstrated solid knowledge, understanding, and application of the content and concepts of computer science and information systems. The responses:

- show solid knowledge and understanding of the concepts of computer science and information systems.*
- demonstrate good interpretive, analytical, and problem-solving skills.
- present information and ideas in an organized manner with minor errors or omissions.

Level 3

The student has demonstrated basic knowledge, understanding, and application of the content and concepts of computer science and information systems. The responses:

- show basic knowledge and understanding of the concepts of computer science and information systems.*
- demonstrate some interpretive, analytical, and problem-solving skills.
- present information and ideas in a somewhat organized manner with some errors, misconceptions, and/or omissions.

Level 2

The student has demonstrated limited knowledge, understanding, and application of the content and concepts of computer science and information systems. The responses:

- show limited knowledge and understanding of the concepts of computer science and information systems.*
- demonstrate limited interpretive, analytical, and problem-solving skills.
- present limited information; may lack organization and/or have misconceptions, errors, and omissions.

Level 1

The student has demonstrated little or no knowledge, understanding, and application of the content and concepts of computer science and information systems. The responses:

- show minimal knowledge and understanding of the concepts of computer science and information systems.*
- demonstrate little or no interpretive, analytical, and problem-solving skills.
- present little or no information and have misconceptions and errors.

* A detailed description of the content covered by the ACE in Computer Science and Information Systems can be found on page 3–6.

Sample Test Questions

Sample Multiple-choice Questions

1. You did an Internet search for a non-profit association or club and came up with four possibilities. Which of the following is MOST likely the final part of its address?

   A. qnet.org

   B. qnet.com

   C. qnet.ind

   D. qnet.gov

2. As an administrative assistant to an insurance adjuster, you must create and send letters to clients within two days of the adjuster's visit to them. Which software applications would be BEST to use in this situation?

   A. database and presentation

   B. telecommunications and desktop publishing

   C. word processing and database

   D. word processing and desktop publishing

ANSWER KEY: 1. A 2. C.

Sample Written-response Question

The Greenthumb Nursery, a retail plant business, already uses word processing and desktop publishing for correspondence and brochures. The business owner wants to expand the use of their state-of-the-art computer to help with other aspects of the business.

- Describe **two** other computer uses the owner should consider.
- Discuss how **each** would impact the efficiency or operation of the business.

What Students Are Expected to Accomplish

In their response to this question, students are expected to identify two additional uses of a computer in a small business setting, beyond the simple uses the business already makes of its ocmputer. The response is scored on a depth of understanding of business software applications and how such applications can be used to enhance business operations. Additionally, responses are expected to address all parts of the question and to be well organized, clearly written, and well focused on the problem.

General Scoring Criteria for Written-response Questions and Problem-solving Tasks

The general criteria for each score point are outlined below. These criteria are used to develop scoring guides that address the specific content in each written-response question or problem-solving task.

Score Point 4

Student response shows **excellent** knowledge and understanding. The response:

- completes all components of the question correctly.
- demonstrates in-depth understanding of relevant concepts.
- conveys knowledge coherently and effectively.

Score Point 3

Student response shows **substantial** knowledge and understanding. The response:

- completes all or most components of the question correctly.
- demonstrates understanding of relevant concepts; may overlook or misunderstand less important ideas.
- conveys knowledge clearly.

Score Point 2

Student response shows **partial** knowledge and understanding. The response:

- completes some important components of the question correctly.
- overlooks or misunderstands relevant concepts.
- conveys knowledge in a manner that may lack clarity.

Score Point 1

Student response shows **little or no** knowledge and understanding. The response:

- attempts to address important component(s) of the question but may do so incorrectly.
- demonstrates little or no understanding of relevant concepts.
- conveys knowledge in a manner that may lack clarity or focus or may impede understanding.

Sample Student Work

Score Point 4

In order to use their "state-of-the-art" computer to its fullest, the Greenthumb Nursery can do two very important things. First, they can establish themselves on the WWW (www.greenthumb.com). Through this online presence they can provide many services to their customers. On such service is an online product catalog with price and sales information. They can also give customers the ability to shop online, and if they deliver, order that service. An online plant database would help customers also. Information and Directions for the store would help also.

Another function could be an inventory management system. Using some custom software or database program, quantity in stock, vender information, cost, and other such data could be stored for every categorizing and reporting. With this they could let customers know if they have plants in stock and if no, when they will be getting more in. One last use if the nursery would like to spend the money is an automation of watering and "pruning" notification. The computer could start sprinkler systems depending on the time and the plant using information from the inventory database. It could also notify employees when to prune and take care of the plants.

Commentary

This response demonstrates in-depth understanding of business software applications and how such applications can be used. The response identifies two other computer uses the business owner should consider and discusses in detail how each of the uses could impact the efficiency/operation of the business. The knowledge is conveyed coherently and effectively.

Score Point 3

To expand the use of their state-of-the-art computer, Greenthumb Nursery might want to consider using programs for spreadsheets and databases.

The use of spreadsheets could widen their use of computers. It is a very helpful program that makes quick calculations for the user. For example, if wanting to find the amount of the total business of the week, one would be able to do that with all the information needed and a proper equation.

The use of a database can organize their business. It would help them sort and easily find all the information they want.
With the use of these two programs, the Greenthumb Nursery will expand the use of their state-of-the-art computer.

Commentary

This response demonstrates a fairly good understanding of business software applications and how such applications can be used. The response identifies two other computer uses the business owner should consider and briefly discusses how each of the uses would impact the efficiency/operation of the business. The knowledge is conveyed clearly, but lacks some specificity and detail.

Sample Student Work

Score Point 2

Besides word processing and desktop publishing, the business owner of Greenthumb Nursery can add a more inventive visual effect to their brochures. He may use a digital camera to create images and load that into the word processing system. Scanners can also be helpful to load in fonts and pictures to help with the visualization of the brochure. These two uses would help the readers of the brochure to see for themselves the plants that are being sold, and maybe a view inside their management as well. In other words, the business would be exposed in a good sense, showing what they want—like the plants their business is based upon.

Commentary

This response demonstrates some understanding of business software applications and how such applications can be used. The response identifies two other computer uses the business owner should consider, but the uses are similar to each other. There is a brief discussion of how the two uses (combined) would impact the efficiency/ operation of the business. The knowledge conveyed lacks some clarity and demonstrates a misconception related to the use of scanners (i.e., that scanners can be used to 'load' fonts).

Score Point 1

One other use is printing newsletters. Then, they could advertise sales specials. It would affect the business because people would know about the sales and want to buy some plants.

Another use would be to make business cards. That way, they could pass those out and then others would pass those around. Their names would be in circulation and then people would know about them.

Commentary

This response demonstrates a minimal understanding of business software applications and how such applications can be used. The response identifies two computer uses the business owner should consider. However, the uses identified are not new and different uses, but merely extensions of the use the business is already making of word processing and desktop publishing applications. There is little discussion of how the uses would impact the efficiency or operation of the business. The knowledge conveyed lacks some clarity.

Recognition Program

After an achievement level for each student is determined on the basis of their combined multiple-choice and written response scores, results are sent to you through your district/site office. You will receive your results in the fall (October–November). The results/recognition packet that comes to your school site should include:

1. student reports
2. school bulletin board display
3. ACE awards recipient lists
4. school summary reports
5. certificates of achievement
6. honor insignias
7. record of achievement levels

The intended purpose of the ACE examination is to honor students who have earned recognition for their achievement. There are no negative consequences for students who do not achieve in the top three levels. Programs receiving funding from Carl Perkins may use participation in ACE as one of their multiple measures of accountability.

Ideas for promoting ACE and honoring students:

- include ACE information at back-to-school night.
- provide ACE brochures to the counseling office.
- write news articles for your school newsletter or newspaper about career-technical education and the ACE examination.
- inform students and their parents early in the year about the ACE test and its recognition program.
- ask your principal/superintendent to write a congratulatory letter to each ACE achievement recipient shortly after results are released.
- ask your principal/superintendent to submit a news release to the local newspaper about your ACE award recipients.
- announce award recipients at a school assembly or special awards program.
- work with your school board, community partners, and local businesses to recognize and honor students.

How To Get Involved

Students:
Don't miss out on an opportunity to prepare for your future and earn special recognition for academic achievement in career-technical education. Distinguished performance on an ACE examination will build your self-confidence. It will enhance your resume and applications for work and college. Check with your school counselor early in your high school career to see if coursework leading to an ACE examination is offered at your school.

Parents:
Your teenager will benefit from participating in this program. Encourage your teen to enroll in career-technical education courses and to take the related ACE examination. Career preparation is for ALL students. It prepares them for work and college. The ACE exam recognizes student achievement and enhances resumes and applications for work and post-secondary education. Graduates receiving honors on the ACE exam are better prepared to enter the work force or to enter college and pursue their selected career path.

Teachers/ROCP Directors/ Administrators:
Help your students achieve. If career-technical education programs are taught at your school and your coursework is aligned to the career preparation standards, register your students to take the related ACE examination. Registration forms may be obtained through your district office or ROCP in January. There is no cost to your school or district for administering the ACE examination. The examination is administered at your school site.

Teachers are encouraged to participate during the summer by scoring ACE examinations. Their expertise is vital to the scoring process; it is also a rewarding professional growth experience.

Employers:
Be sure to look for ACE recognition on student resumes. Recognition on an ACE examination in a specific career area indicates a high level of achievement in acquiring the knowledge and skills necessary for an entry-level position and further advancement.

Students who receive ACE honors have a head start as they enter the workforce and continue on a career path.

For More Information

Standards and Assessment Division
California Department of Education
Telephone (916) 657-3011 Fax: (916) 657-4964
www.cde.ca.gov/statetests/ace e-mail: star@cde.ca.gov

12/5/01

Assessments in Career Education

A Bridge Between School and Career

California Department of Education

The ACE Examination

The Assessments in Career Education (ACE) program offers end-of-course examinations that recognize students who demonstrate outstanding achievement in selected career-technical areas. Recognition on this examination provides a record of student achievement for resumes, transcripts, and applications for jobs and post-secondary education. The ACE program helps to bridge school and work.

ACE examinations, based on Career Preparation Standards*, are offered in the following areas:

Agricultural Core
(Agriculture Education)

✦

Computer Science & Information Systems
(Business Education)

✦

Health Care, Level 1
(Health Careers Education)

✦

Food Service and Hospitality
(*Home Economics Careers & Technology Education)*

✦

Technology Core
(Industrial and Technology Education)

* Challenge Career Preparation Standards:
www.cde.ca.gov/challenge/Contents.html

Patterned after the Golden State Examination program, an ACE examination consists of two, 45-minute sessions. Each examination includes multiple-choice questions and written-response questions as well as problem-solving tasks.

Registration for ACE examinations begins in January. The examinations are given in May of each year.

Eligibility & Preparation

To be eligible to take the examination, students must complete a career-technical course or sequence of courses that provide instruction related to all aspects of the subject area standards covered by the examination. Because students may take the ACE examination only one time, it is essential that they are well-prepared. To prepare for ACE, students should:

- practice responding in writing to questions and problem-solving tasks in their classes.
- review sample test questions and student work that are in the ACE Guides for Teachers posted on the Internet:
  www.cde.ca.gov/statetests/ace

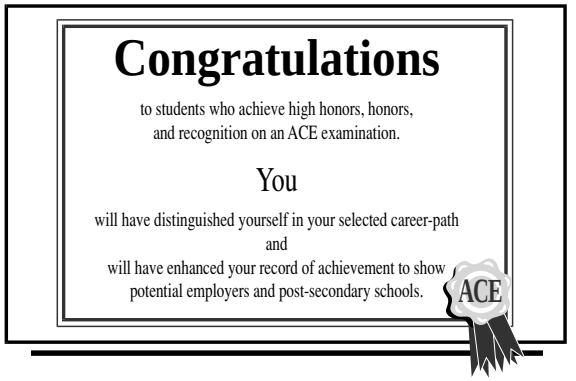
Results & Student Recognition

Written-response items from the ACE examinations are scored in the summer by teachers in related subject areas from across the state. Individual student results are sent to school districts in the fall.

Students who do well on their ACE examination receive state recognition for achieving one of three levels: high honors, honors, and recognition.

Recognition from the California Department of Education includes:

- state award of ACE Academic Excellence
- record of achievement on transcript
- honor roll banner for school
- ACE insignia on diploma for recipients of honors and high honors



Acknowledgments

Thank you to all of the students, teachers, school officials, representatives of higher education, and representatives of industry who have contributed to the development of the Assessments in Career Education (ACE). The ACE examinations are voluntary and rely on your cooperation and continuing support. Students contribute by making their best effort on the examinations. Teachers prepare students and encourage their success. School officials provide support by registering their districts and schools for the ACE examinations, acknowledging the importance of these career areas and understanding the need to recognize student achievement. Higher education and industry representatives ensure that the content of the examinations provides an appropriate foundation for further education, training, and work in a related career area.

We wish to acknowledge the members of the development and scoring leadership teams for their contributions to the ACE in Computer Science and Information Systems.

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This document has been prepared by WestEd and the Sacramento County Office of Education under contract with the California Department of Education. For information about Assessments in Career Education, contact:

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